

Name Key

Date \_\_\_\_\_

## 202 Chapter 8 Test Review/Bonus assignment

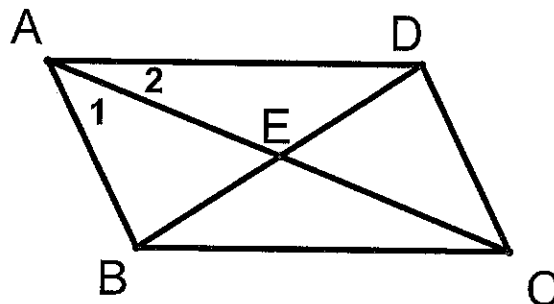
Complete the following problems. Show all work to receive full credit.

p452-456 #s 1-8, 15-20, 24, 34, 37

p457 #s 14, 15

p770 8.5 #s 1-8 (Additionally, for #s 1-4, use sohcahtoa to find  $\frac{1}{2}$  SQ. For #s 5-8, find AB; round to the nearest tenth.)

p771 8.7 #s 2, 3

Use the **parallelogram** ABCD to the right. Determine if the statements are **always**, **sometimes**, or **never** true.(The parallelogram to the right is to help you visualize. It is not drawn to scale. **DO NOT** make any assumptions about its measurements.)

1. A If  $AD = DC$ , then ABCD is a rhombus.
2. A If  $AC = BD$ , then ABCD is a rectangle.
3. S If  $AE = CE$ , then ABCD is a rectangle.
4. S If  $AC \perp BD$ , then ABCD is a rectangle.
5. SA If  $\angle 1 \cong \angle 2$ , then ABCD is a square.

p452

1. T

2. T

3. F; Rectangle

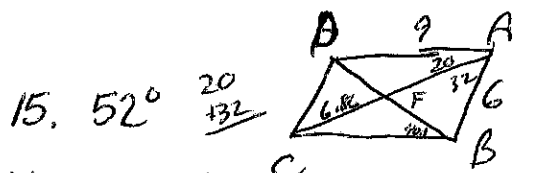
4. T

5. F; trapezoid

6. F; Rhombus

7. T

8. T

15.  $52^\circ$ 16.  $AF = 6.86$ 17.  $m\angle BDC = 87.9^\circ$ 18.  $BC = 9$ 19.  $CD = 6$ 20.  $m\angle ADC = 128$ 

37. (3a, c)

24.  $AF = \frac{1}{2} AC$

$$(2x+7) = \frac{1}{2}(9x-1)$$

$$2(2x+7) = 9x-1$$

$$4x+14 =$$

$$15 = 5x$$

$$3 = x$$

$$\textcircled{AF = 13}$$

34.  $57 = \frac{1}{2}(21 + JM)$

$$114 = 21 + JM$$

$$\textcircled{93 = JM}$$

p457 14, 15



14. A(12,0) B(6,-6) C(0,0) D(6,6)

$$\overline{AC} \quad m = \frac{0-0}{0-12} = \frac{0}{-12} = 0$$

$$\text{Rhombus} \quad AC = \sqrt{(-12)^2 + 0^2} = 12 \quad \text{Rectangle}$$

$$\overline{BD} \quad m = \frac{6-(-6)}{6-6} = \frac{12}{0} = \text{undef.}$$

$\perp$  diagonals

$$BD = \sqrt{0^2 + 12^2} = 12 \quad \cong \text{diagonals}$$

Rhombus, Rectangle, Square

15. A(-2,4) B(5,6) C(12,4) D(5,2)

$$\overline{AC} \quad m = \frac{4-4}{12-(-2)} = \frac{0}{14} = 0$$

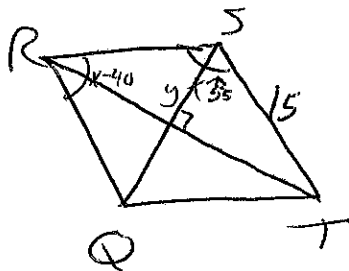
$\perp$  diagonals  
Rhombus

$$AC = \sqrt{14^2 + 0^2} = 14$$

$$\overline{BD} \quad m = \frac{6-2}{5-5} = \frac{4}{0} = \text{undef.}$$

$$BD = \sqrt{0^2 + 4^2} = 4 \quad \neq \quad \text{Not Rectangle}$$

p770 8.5 1-8



$$x + x - 40 = 180$$

$$2x = 220$$

$$x = 110$$

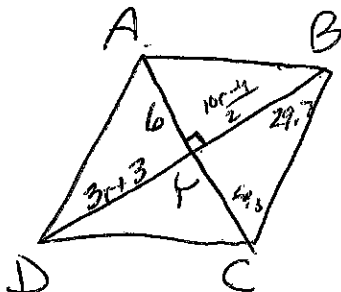
$$70$$

$$1. \quad m\angle TSQ = \frac{1}{2} 110 = 55 \quad 2. \quad m\angle QRS = 70$$

$$3. \quad m\angle SRT = \frac{1}{2} 70 = 35 \quad 4. \quad QR = 15$$

$$\text{Extra} \quad \cos 55 = \frac{y}{15}$$

$$y = 8.6$$



$$\frac{3r+3}{1} = \frac{10r-4}{2}$$

$$10r-4 = 6r+6$$

$$4r = 10$$

$$r = 2.5$$

$$5. \quad m\angle ACB = 60.3^\circ \quad \tan x = \frac{10.5}{6}$$

$$x = 60.3$$

$$6. \quad m\angle ABD = 29.7^\circ$$

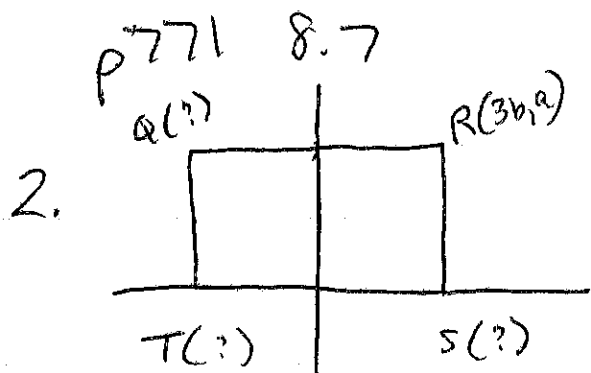
$$7. \quad BT = 10.5$$

$$8. \quad AC = 12$$

$$\text{Extra} \quad AB = 12.1$$

$$6^2 + 10.5^2 = AB^2$$

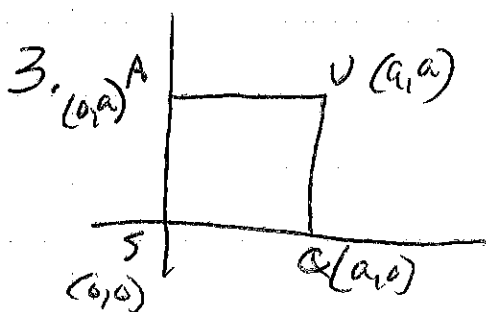
$$12.1 = AB$$



$$S(3b, 0)$$

$$T(-3b, 0)$$

$$Q(-3b, a)$$



$$US = \sqrt{(a-0)^2 + (a-0)^2}$$

$$\sqrt{a^2 + a^2}$$

$$\sqrt{2a^2}$$

$$US = a\sqrt{2}$$

$$AQ = \sqrt{(0-a)^2 + (a-0)^2}$$

$$a^2 + a^2$$

$$\sqrt{2a^2}$$

$$AQ = a\sqrt{2}$$

